Median, quartiles and interquartile range

Grade 5 | Foundation and Higher | 5 questions, 20 marks

GCSE Statistics topic practice

Name: _____ **Date:** _____ **Score:** _____ **/ 20**

1 Here are the ages, in years, of the 7 members of a chess club. The ages are in order.

11 13 14 16 19 23 30

a. Write down the median age. (1)

b. Work out the interquartile range of the ages. (2)

(3 marks)

2 A call centre records how long, in seconds, each of 11 callers waits before their call is answered.

12 7 15 9 21 10 18 7 14 25 11

a. Find the median waiting time. (1)

b. Work out the interquartile range of the waiting times. (2)

c. At a second call centre the median waiting time is 12 seconds and the interquartile range is 15 seconds. Compare the consistency of the waiting times at the two call centres. (1)

(4 marks)

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3 The stem and leaf diagram shows the times, in minutes, of 15 bus journeys into Bristol.

Stem	Leaves
1	2 5 8
2	0 3 3 6 9
3	1 4 4 7
4	0 2 8

Key: 1 | 2 means 12 minutes

a. Find the median journey time. (1)

b. Work out the interquartile range of the journey times. (2)

c. Give one reason why the interquartile range can be a better measure of spread than the range. (1)

(4 marks)

4 Oluwaseun records the number of goals scored in each of 39 hockey matches.

Number of goals	0	1	2	3	4
Number of matches	6	9	11	8	5

a. Find the median number of goals. (2)

b. Work out the interquartile range of the number of goals. (2)

(4 marks)

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5 Yusuf records the number of text messages he sends on each of 11 days. Here are his results in order. Two of the numbers are shown as a and b.

3 5 a 8 9 12 14 15 b 21 24

The upper quartile is 19 and the interquartile range is 13.

a. Find the value of a and the value of b. (2)

b. Yusuf finds that he wrote down the largest number wrongly. It should be 42, not 24. Explain what effect, if any, this has on the median and on the interquartile range. (2)

c. Write down one measure of spread that will change when 24 is replaced by 42. (1)

(5 marks)

End of questions | Total 20 marks

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